

WILL US SHALE GIVE THE REFINING INDUSTRY INDIGESTION? *

By the end of this year, the US oil industry will be pumping 11m barrels a day of crude, the highest in its history and more than either Russia or Saudi Arabia. These barrels, boosted by the shale revolution and increasingly exported, are seen as critical for keeping the market well supplied as a fast-growing global economy lifts demand for diesel, jet fuel and petrochemicals. But in the industry, debate — some would say, concern — is growing over just how well-suited the shale oil coming out of the US is for meeting this rising demand. The issue, critics say, is that US shale is far lighter — having been released through narrow fissures in rocks by hydraulic fracturing — than gloopy tarry crudes most people think of when they picture a barrel of oil. This has potentially huge implications because refiners, who turn crude into usable products, have spent decades investing in plants capable of processing far heavier oils that were once expected to dominate supply. The lighter shale barrels, some say, are just not as good for making the products — especially diesel, jet fuel and other so-called middle distillates — that the world increasingly needs. They warn of a potential crunch in years to come caused not by an outright shortage of crude, but by refiners scrambling to compete for more conventional barrels as US shale is found wanting.

“The dirty secret of US shale oil is not many people want it,” says Bill Barnes of Pisgah Partners, an energy project development consultancy. “It’s wrong to say the US can add 1m-plus barrels a day of production capacity a year and it will immediately find a home in the world’s refining system.” While some believe this view is alarmist, including the International Energy Agency that argues the 100m b/d global refining system is flexible enough to adapt, there is evidence US shale is not being uniformly embraced. US plants are still favouring heavier barrels, blending shale oil or moving it in to storage. And while US exports have soared since restrictions on overseas shipments were lifted two years ago, much of the oil shipped abroad has been heavier, conventional barrels, rather than the new shale bounty.

“[Shale’s] very light so either you have a refinery that’s geared towards that but maybe then it’s too light even for that. Or you use it only in very specific situations.” While his view was echoed by other European refiners the Financial Times spoke with, the UK has emerged as the biggest buyer of US tight oil in the region. ExxonMobil’s Fawley refinery and Valero’s Pembroke plant have both been consistent users of shale, according to Clipper Data. Last year, the UK took about 90,000 b/d of light US crude, equal to 7 per cent of UK refining capacity, reflecting the fact those plants are used to a diet of North Sea crude that tends to be relatively light.

“Problems could start to emerge, however, if US shale keeps growing at 1m b/d beyond 2020. That’s when we’ll need more diesel while gasoline demand could start to get hit if we get more electric vehicle penetration.” Diesel and other distillates are among the fastest growing portions of demand, and in 2020 International Maritime Organisation rules mean the global shipping fleet will be moving from heavier, dirtier fuel oil to diesel. That could add a further 2m b/d or more to diesel demand in a short space of time. “There are issues on both sides. Refiners who invested in processing heavy crude could face problems down the line — if 80 per cent of growth is from lighter grades then heavier barrels could get more expensive.”

Some remain adamant, however, that those who believe the refining system will adapt are being complacent. Critics argue that the refining capacity available to light crudes is far smaller than 100m b/d once you subtract a US refining system close to saturation and countries such as Russia that will not buy it. They say the open market for light crudes is closer to 15m b/d. “The world’s system will find a way to deal with it eventually,” Mr Barnes at Pisgah Partners says. “But in the short to medium-term we could see it struggling to find a home.”